

POSSIBLE *Mycoplasma hominis* URETHRITIS* REVEALED BY DIFFERING RESPONSES OF "ABACTERIAL URETHRITIS" TO TREATMENT WITH TETRACYCLINE AND ERYTHROMYCIN

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If there is a reasonable certainty concerning the parasitism of *M. pneumoniae* and the saprophytism of *M. salivarium*, the positions of the genital strains of mycoplasma (*M. hominis*) in this respect remain in doubt (Taylor-Robinson, and Purcell, 1966).

It has been demonstrated in several studies (Table I) that the incidence of mycoplasmas in the genital tract tends to increase with the amount of inflammation. It has also been shown that the occurrence of serum antibodies is commonest in those groups of persons most prone to genital infection (Card, 1959). But in what measure the mycoplasma is responsible for such genital inflammation is still an open question.

similarly packaged and labelled "A" and "B" respectively.† The identity of the drugs was withheld from the physician until the completion of the study. The dose of both drugs was 250 mg. given orally 6 hourly to a total of 5 g.

Tetracycline and erythromycin both inhibit a wide variety of bacteria. Tetracycline acts on the cytoplasm and is bacteriostatic; erythromycin acts also on the cell wall, and is bacteriostatic and in full doses bactericidal. Tetracycline in addition acts as an inhibitory agent against the *Bedsoniae* and also against mycoplasma (Blyth, 1958). *M. hominis* Type 1 has been shown by studies *in vivo* (Rubin, Somerson, Smith, and Morton, 1954) and studies *in vitro* (Shepard, Luncford, and Baker, 1966) to be unaffected by erythromycin.

Results

Table II shows the results of this trial which was conducted in two clinics; the results from each clinic bore a close resemblance. The criterion for a successful response to treatment was cessation of the urethral discharge combined with clear urine in the two-glass test occurring within 2 weeks of treatment. Any case demonstrating persistence of discharge or the occurrence of flakes or haze in the two-glass urine test after an interval of 2 weeks was judged to demonstrate a failure of treatment. A number of patients improved to almost complete cure and then relapsed within the stated interval.

TABLE I
GENITAL MYCOPLASMA IN MEN

Authors	Date	Percentage Positive	
		NSU	Controls (so-called)
Harkness and Henderson-Begg	1948	{ 50 38	{ 0 0
Klieneberger-Nobel	1959	48	{ 3 3
Nicol and Edward	1953	27	11
Evers and Ruys	1956	50	—
Grimble	1959	35	12

This paper considers the differing responses to treatment with tetracycline and erythromycin in a series of cases of non-gonococcal urethritis, judged abacterial on the appearance of the stained smear of urethral exudate; the presence of *Trichomonas vaginalis* and *Candida albicans* had been excluded by negative findings in direct smears and by dark-field microscopy.

Method

Alternate patients were treated with tetracycline and the others with erythromycin, the drugs being

TABLE II
RESULTS WITH THE TWO DRUGS IN 190 CASES

Drug	Results				Clinic
	Success	Relapse	Failure	Total	
Tetracycline	23	1	3	27	Miller Hospital
Erythromycin	16	3	8	27	
Tetracycline	53	5	10	68	Guy's Hospital
Erythromycin	33	15	20	68	
Tetracycline	76	6	13	95	} Total
Erythromycin	49	18	28	95	

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†Packaged and supplied by Abbott's Laboratories.

Discussion

Considering the inhibitory range of erythromycin, its effect could only be expected to be that of a secondary bacterial suppressor. Tetracycline could also be acting in this way but in addition it has an anti-mycoplasmal activity; the small dose of 5 g. is unlikely to have eliminated a virus infection.

The proportion of patients failing to respond to either drug is 20.2 per cent. of the total; this incidence may possibly represent that of a non-infective cause. The response to erythromycin alone was 52 per cent. of 95 cases and to tetracycline alone 80 per cent. of 95 cases. It is suggested that the difference between these two figures—28 per cent.—might represent the incidence of a disorder largely or wholly due to *M. hominis* infection.

Summary

The effect of treatment with tetracycline and erythromycin was observed in 190 patients with non-gonococcal urethritis, alternate cases being given a total of 5 g. of one or the other drug. Cures were obtained in 52 per cent. of those given erythromycin and in 80 per cent. of those given tetracycline. The difference may be due to the presence of infection with *Mycoplasma hominis* which is unaffected by erythromycin but sensitive to tetracycline.

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La possibilité de l'urétrite causée par le *Mycoplasma hominis* révélée par les différentes réactions données par l'urétrite abactérienne quand elle est traitée avec la tétracycline et l'érythromycine

RÉSUMÉ

L'effet du traitement par la tétracycline et l'érythromycine a été observé chez 190 malades atteints d'urétrite non-blennorragique, chaque cas recevant alternativement un total de 5 g. de l'un ou de l'autre médicament. Des cures ont été obtenues chez 52 pour cent des cas recevant l'érythromycine et chez 80 pour cent des cas recevant la tétracycline. La différence peut être due à la présence d'une infection par le *Mycoplasma hominis* qui n'est pas affecté par l'érythromycine mais est sensible à la tétracycline.